RESPONSES TO COMMENTS FROM COLORADO DEPARTMENT OF HEALTH AND U.S. ENVIRONMENTAL PROTECTION AGENCY ON FINAL OU12 RFI/RI WORK PLAN

EG&G Rocky Flats
Rocky Flats Plant
Golden, Colorado

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Colorado Department of Health
Hazardous Materials & Waste Management Division
Comments on FINAL RFI/RI WORK PLAN
for OU12 (400/800 Area)

GENERAL COMMENTS:

The Division notes that several SOPs are under development or revision. These must be approved before the specific segment of the FSP begins. Collection of samples or data without an approved SOP may result in the rejection of the resulting data.

Response: Throughout the work plan, when an SOP is mentioned that is under development, a statement is made that either an alternate, agency-approved method will be used or the field activity will not occur until the SOP has been approved by the agencies.

SPECIFIC COMMENTS:

Section 2.4.2.2: **DOE's comparisons of contaminant concentration levels to maximum background concentrations is inappropriate. Since a maximum background value may be an anomaly any comparison should be made to the upper tolerance limits of the background data not the maximum concentration.**

Response: Comparison to maximum background concentrations for the contaminants discussed in Section 2.4.2.2 has been deleted from the document. All contaminants are compared to upper tolerance limits only.

Figure 2-3: **The storm drains added to this figure as a result of the June 1992 site visit have not been included in the explanation. Please add.**

Response: The storm drains were included on Figure 2-3, but the symbol was difficult to distinguish. The location of storm drains has been clarified on the figure and clarified in the explanation.

Section 3.0: **We previously asked that our comments to the Chemical-Specific Benchmark Tables (Gary Baughman to Martin Hestmark, cc'd to Rich Schassburger, dated June 12,1992) be incorporated into the final workplan version. Though some of the comments have been addressed, many remain unresolved. Until the Benchmark tables are fully amended, the Division will be unable to grant unrestricted and final approval to this workplan. Please contact the Division for a list of those comments that remain unresolved.**

Response: The chemical specific benchmark tables are being reviewed to address concerns regarding the completeness of the table. A final chemical specific benchmark table cannot be included in the final submittal of the OU12 Phase RFI/RI Workplan, as all the issues surrounding this table have yet to be resolved between DOE, EPA, and CDH. A meeting with all concerned parties is being scheduled to finalize the benchmark table. This final version of the benchmark table will be included in the OU12 workplan as an addendum to the final Phase I RFI/RI workplan.

Colorado Department of Health
Hazardous Materials & Waste Management Division
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Section 6.3.3.1: **The Division notes that Figure 6-1 does not show NaI probe nor asphalt sample locations within the boundaries of the West Cooling Tower Pond (IHSS 136.1) while such stations are shown for the adjoining West Loading dock (IHSS 116.1) and the soil covered East Cooling Tower Pond (IHSS 136.2). However, we acknowledge that the potential for radionuclides upon the asphalt surface of the West Loading Dock warrants the stations while suspected burial of radionuclides beneath the pavement at IHSS 116.1 would be of little value. Also, the lack of pavement at the East Cooling Tower Pond favors the use of the NaI probe.**

Response: The Division is correct in acknowledging that the NaI probes are of use only on IHSS surfaces where historical activity is documented to occur (i.e., at the West Loading Dock because releases occurred on the pavement, but not at the West Cooling Tower Pond because it is buried and paved over. The value of taking NaI probe readings at IHSSs that have since been paved over is minimal for providing information specific to that IHSS. The field sampling plan depicted on Figure 6-1 does provide for additional NaI probe readings to be taken at areas of anomalous activity.

Section 6.3.1.2 and 6.3.2.2: **The Division recognizes that the proposed monitoring wells for the loading docks (IHSSs 116.1 and 116.2) are prescribed by the IAG. Although their immediate need specific to the units may be questioned, it is desirable to have at least these two wells within the Operable Unit and covered by the budget. The Division expects that "dependent" wells at the other IHSSs are being budgeted under this RFI/RI.**

Response: Both wells, as shown on Figures 6-2 and 6-3 are located within the OU and were prescribed in the IAG. The locations shown are tentative however, and will be finalized based on the results of field screening. Other wells that are determined to be required in the OU, based on field results, will be funded. The budget for the OU12 RFI/RI is not currently finalized. Additional explanation has been added to Sections 6.3.1.2 and 6.3.2.2.

Section 6.3.4.1: **The Division notes that the FSP for this IHSS does not specify duplicate surficial soil sampling to confirm laboratory HPGe results comparable to the previous IHSSs. However, we acknowledge that confirmation of laboratory HPGe results need not be IHSS specific, and that the proposed subset of duplicates should be adequate to confirm laboratory HPGe results.**

Response: We concur that laboratory confirmation of HPGe results need not be IHSS specific. The text has been changed however, for consistency, and indicates three confirmation samples will be collected at this IHSS.

Section 6.3.5.1: **The statement in the first paragraph that nine tripod-mounted HPGe locations will be used to supplement the vehicle-mounted HPGe is misleading.**

Six of the nine sites are specific to the East Cooling Tower Pond (IHSS 136.2). DOE must ensure that 100% coverage is afforded by the three proposed methods.

Response: Based on the 195 ft. field of view of the HPGe detector, complete coverage of IHSS 157.2 is accomplished. Three additional tripod-mounted HPGe survey locations have been added in areas where past activities may have resulted in contamination. In addition, the six tripod-mounted HPGe survey locations proposed for IHSS 136.2 will provide data for IHSS 157.2. Text has been clarified to reflect this coverage.

Section 6.3.8.1: **From the first paragraph, page 36, it is unclear how or where the subset of two subsurface samples will be obtained. Will they be taken from beneath the paved portion of the site?**

Response: The two subsurface soil samples are referring to surficial soil samples collected beneath pavement. Text has been clarified in Section 6.3.8.1.

Section 6.3.10: **The statement is made in the first paragraph that the "steel boxes containing depleted uranium will be removed prior to conducting any sampling at this IHSS." Consequently, the FSP as shown on Figure 6-11 must be altered and expanded. A revised Figure 6-11 is attached which shows the addition of two sites and the relocation of a third site.**

Response: All boxes containing depleted uranium that are presently located within this IHSS will be moved before any assessment field work will be conducted. This is consistent with other Operable Units regarding the disposition of waste and other materials that are present within the boundaries of IHSS's. Three additional HPGe survey locations have been included on Figure 6-11 to provide coverage for the container storage areas.

Section 6.4.6: **Regarding the Kansas Soil Sampler, DOE must ensure that an approved SOP is available to field personnel prior to initiating the specific activity.**

Response: The text states that a SOP will be developed prior to initiating field activities.

Environmental Protection Agency
Technical Review Comments
Final RFI/RI Work Plan
Operable Unit 12

GENERAL COMMENTS:

Several standard operating procedures (SOPs), which are at the center of the planned sampling efforts at OU12, have still not been submitted by EG&G to CDH and EPA for approval. These include the amended soil sampling SOP, SOPs for operation of the HPGe in the field and the laboratory, and SOPs for soil and ground water field screening analyses. These SOPs must be submitted in a timely manner so they may be reviewed by CDH and EPA before field work begins at OU12.

Response: Throughout the work plan, when an SOP is mentioned that is under development, a statement is made that either an alternative approved method will be used or the field activity will not be performed until an agency-approved SOP is available.

SPECIFIC COMMENTS:

Section 2.4.2.1, Page 40, Paragraph 2: This paragraph discuses beryllium concentrations in soils and refers to Figure 2-37. The units of concentration for beryllium on Figure 2-37 are keyed as micrograms per kilogram (ug/kg) whereas the units are expressed as mg/kg on page 40 and Table 2.4. This discrepancy was not corrected on Figure 2-37 as stated in the response to comments document.

Response: Figure 2-37 has been corrected to reflect mg/kg for beryllium, chromium, and lithium.

Section 4.1.4, Page 8, Paragraph 2: The draft work plan and subsequent comment response document mention the fact that surface water analysis data will be obtained from sitewide surface water monitoring programs. This version of the work plan does not even address this issue with such a statement. No mention of surface water sampling is made in Section 6.3, as indicated in this paragraph. Section 5.3.2 (Subtask 2 of the field investigation) states that "...surface water samples will be determined from the results of Subtask 1". Therefore, a definite plan to address surface water in OU12 does not seem to be developed at this time. The proposition of an industrial area surface water plan has been put forth in meetings, and as a general concept is acceptable to EPA. However, since no such plan has yet been presented, it is necessary that surface water sampling for OU-12 be addressed in a technical memorandum prior to Subtask 2 of the field investigation.

Response: The work plan has been revised to indicate surface water analysis data will be obtained from sitewide surface water monitoring programs. The proposition of an industrial area surface water plan is still under development.

Section 6.2.1, Pages 5 and 6: What is the advantage in using the NaI probe for spatial resolution of detected radioactivity? This probe does not appear to have the resolution capabilities of the HPGe. The field of view for the HPGe can be reduced by deploying it closer to the ground and/or shielding. In addition, no documentation or information is provided concerning the NaI probe's sensitivity, field of view,

operation, limitations, etc. Although efforts designed to provide better spatial resolution of radiation anomalies are encouraged, further explanation and documentation are needed for this aspect of the radiation survey.

Response: The HPGe detector does have higher resolution than the NaI probe. However, because the field of view is set at the maximum 195 feet and the source of the radiation may be much smaller than 195 feet, the NaI probe is used to provide better definition of the contaminated area.

Section 6.2.1, Page 7, Paragraph 2: Although some of the information provided in Appendix G is useful and informative, it does not contain a specific SOP for the HPGe as is claimed in the work plan. The two documents that comprise this appendix, dated 1985 and 1991 respectively, also do not completely specify detection limits for all radionuclides of concern or the different sensitivities of tripod vs. truck mounted detectors. Tabulation of both instruments' sensitivities is needed for all radionuclides of interest, in addition to specific SOPs.

Response: As stated on page 7, an SOP for the HPGe is currently under development. Also, as stated on page 7, other types of approved equipment will be used if the SOP for the HPGe has not been approved prior to initiation of OU12 field work.

Section 6.2.1, Page 8, Paragraph 3: The discussion here states that no vertical profile samples for radionuclide contamination will be conducted in paved areas. A subset of the paved area sampling locations should include vertical profile sampling done in the same manner as in unpaved areas for the purpose of delineating the extent and distribution of radionuclide contamination with respect to depth. This is justified by the fact that depth of contamination of paved and unpaved areas cannot be directly correlated due to differences in exposure and disturbance through the years.

Response: Vertical depth profile samples are required to determine the vertical distribution of gamma-emitting radionuclides contributing to the surface HPGe survey readings. Areas covered by asphalt or concrete are effectively sealed off and the underlying soils are not contributing to the surface HPGe survey readings. Therefore, a correlation between surface HPGe measurements and soils beneath concrete or asphalt cannot be made. Instead, concrete and asphalt samples will be collected as stated on page 9, and grab samples beneath the concrete and asphalt will be collected as stated on page 8, paragraph 2. Because the areas beneath concrete and asphalt are not exposed to natural conditions which may increase the infiltration depth of the contaminants only grab samples are proposed. As stated in the work plan, if the grab soil samples exhibit elevated contaminant levels, subsequent sampling at depth will occur.

Section 6.6, Pages 52-57: EPA's comment #S47 regarding the Data Management and Reporting section of the draft work plan was not completely addressed by the forms that have been inserted as Appendix I. These forms do show the proposed field data parameters for input to RFEDS and the initial step to be taken in tracking samples by RFEDS, but they do not demonstrate that sample tracking beyond

shipping date to the lab will be routinely accomplished. Sample tracking from the date of collection through the final transmittal of analytical, results to the subcontractor is an important task that should be planned in advance and routinely monitored and reported. One of the lessons learned from the OU 1 RI process and subsequent laboratory audit was that such sample and data tracking reports are important in giving early warning to project managers when delays are occurring that will impact the project. In addition it was determined that the format of analytical data presented to the subcontractor was initially a problem in that all necessary data was not being made available from RFEDS. Therefore, the data format should be reviewed in advance to be sure that these problems will not occur. Finally, transmittal of analytical data from RFEDS to subcontractors has only occurred after specific requests for such data. This seems to be a rather cumbersome process and it is recommended that all pertinent analytical data be automatically transmitted to the subcontractors on a routine basis.

Response: Changes in the data management and sample tracking process have recently been implemented. Sample tracking and status reports are being generated to provide accurate information on sample analysis. Improved electronic data capture procedures have been developed, so individual project managers will have better control over the disposition of environmental samples. This will allow more rapid transmittal of analytical data to, and improved formats, to the subcontractor(s) developing RI reports.

DOE/EG&G may already be addressing these issues, but if not, it is strongly recommended that these aspects of data management and reporting be thoroughly planned prior to commencing field work.